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Westinghouse Electric & Manufacturing Co.

PITTSBURG, PA.

Catalogue No. 109.

Circular No. 25.

April, 1896.

A. C. Constant Potential Arc Lamps.

OUTDOOR TYPE.

Outdoor Weatherproof Lamp— $37\frac{1}{2}$ Volts.

This lamp is especially adapted for lighting streets, mills, foundries, large enclosed areas like freight depots, etc.

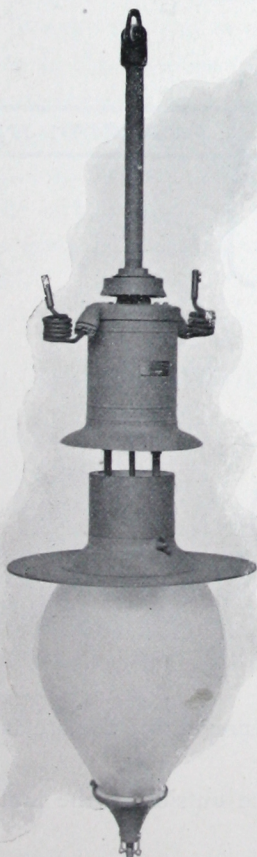


FIG. 1. $37\frac{1}{2}$ VOLT LAMP.

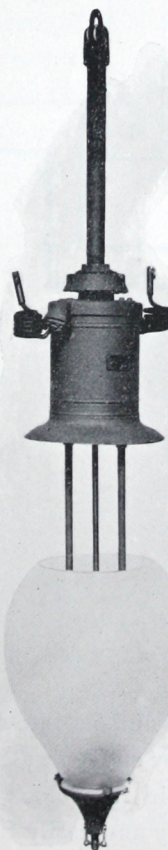


FIG. 2. 30 VOLT LAMP.

As all parts of the lamp are weatherproof, and the leading in cables are carried through stuffing-boxes, the lamps can be hung without a protecting hood.

This type of lamp is provided with an enameled reflector, which re-directs the upward and useless rays from the arc back to the ground. The

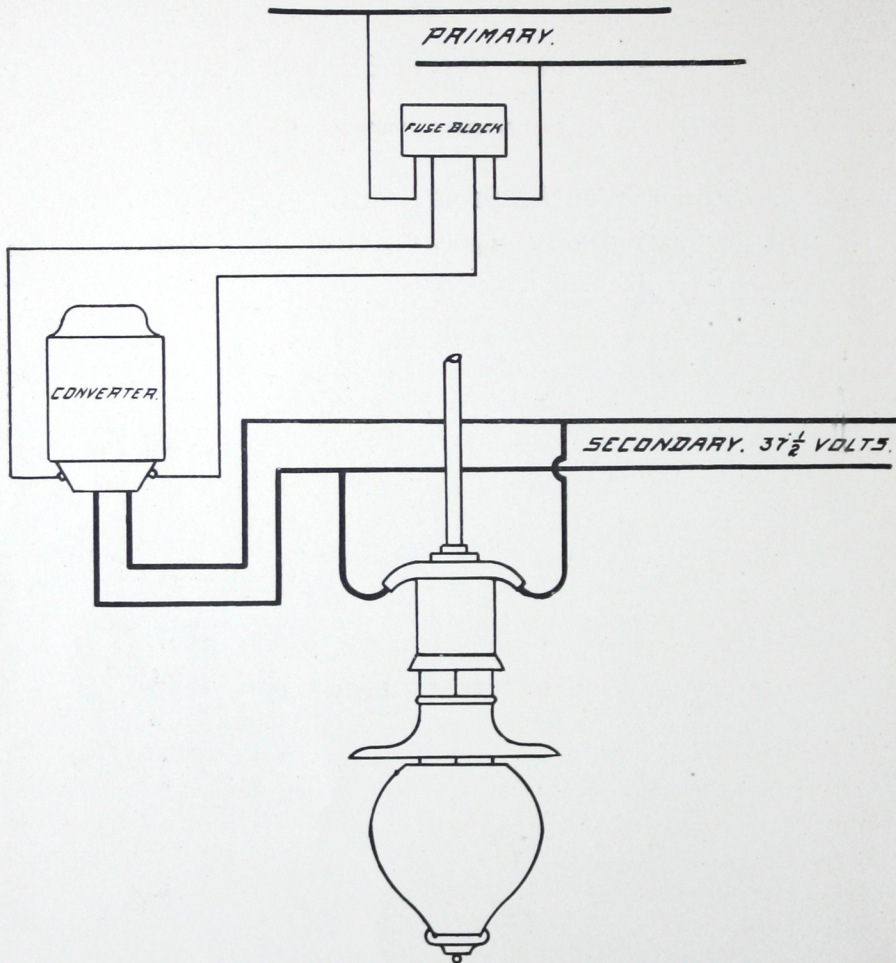


FIG. 3.

globe is high and fits into the reflector, thus preventing the arc from being interrupted by sudden gusts of wind.

A porcelain fuse block is provided on the outside of the lamp, which can be readily and easily fused.

This lamp will run equally well on 16,000 or 7,200 alternations by the change of one connection.

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Method of Operation.

Street Lighting.—Figure 3 shows the method of connecting one of these lamps, which are run in multiple from special converters, transforming the line voltage to about $37\frac{1}{2}$ volts at the lamp terminals. This is an approximate figure, the actual potentials obtained in practice ranging from 36 to 39 volts.

These lamps are not noiseless, but for the class of work for which they are intended the noise is not such as to be objectionable.

Outdoor Weatherproof Lamp—30 Volts.

For outdoor use on economy coils, and 30 volt circuits, we furnish a lamp exactly like the $37\frac{1}{2}$ volt in mechanism and housing. There is, however, a difference in the resistance which is used in series with the arc, this lamp being provided with means of adjusting the resistance so that variation in voltage, due to drop, etc., at various places, may be compensated for, allowing the lamp to have a uniform length of arc; that is, a uniform voltage across the carbon tips.

This lamp is provided with a porcelain fuse block, but no reflector is furnished.

Outdoor Weatherproof Lamp— $37\frac{1}{2}$ Volts.

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Alternations,	7200-16000
Terminal voltage,	$37\frac{1}{2}$
Arc voltage,	30
Current,	16
Watts in arc (apparent)	480
Nominal candle power,	2000
Life, hours,	14
Weight,	40 lbs.
Length,	4' 9"

Carbons.

Upper,	16 m. m. A. C. cored, 10" long.
Lower,	$\frac{5}{8}$ " solid, 11" long.

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Outdoor Weatherproof Lamp—30 Volts.

Alternations,	7200-16000
Terminal voltage,	30
Arc voltage,	25-26½
Current,	14½
Watts in arc,	375
Nominal candle power,	1600
Life, hours,	10-12
Weight,	27 lbs.
Length,	4' 3½"

Carbons.

Upper,	15 m. m. A. C. cored, 9½" long.
Lower,	15 m. m. A. C. cored, 9½" long.

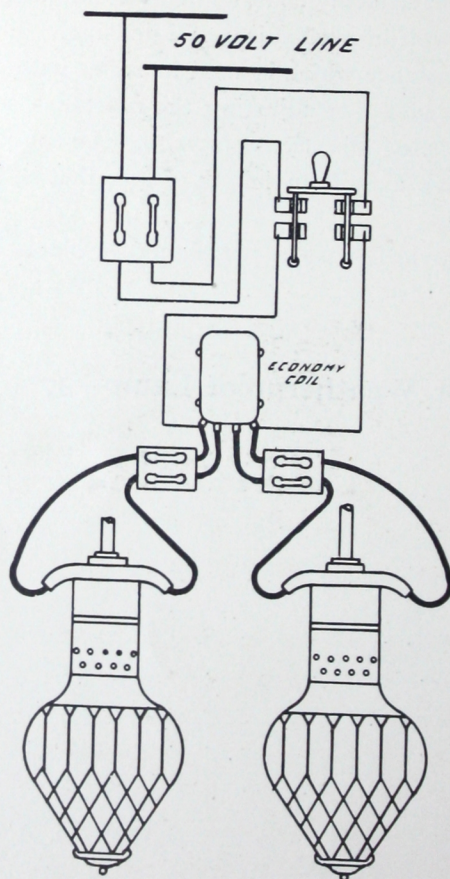


FIG. 4.

The Economy Coils, which we use in connection with A. C. Arc Lamps, are a type of auto-converter. Their purpose is to reduce the pressure supplied by 100 or 50 volt alternating current lighting circuits to the potential at which the arc lamps are operated. The coils are manufactured in two sizes; the one used on 50 volt circuits furnishes energy for either one or two lamps; while the other, which is used on 100 volt circuits, operates one, two or three lamps.

Each economy coil consists of an iron core having a single winding of copper wire, the terminals of which are connected to the 50 or 100 volt cir-

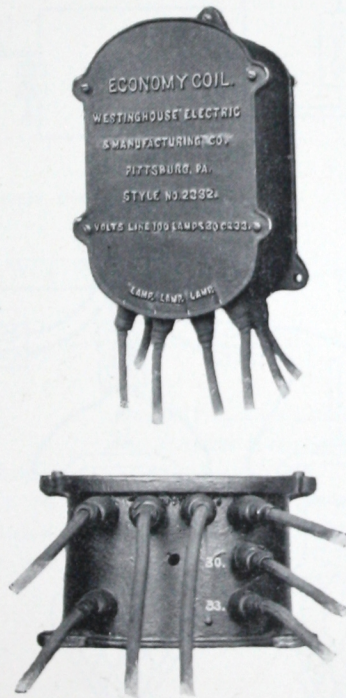


FIG. 5. 100 VOLT ECONOMY COIL.

cuit. At different points in the winding leads are brought out and form terminals to which the arc lamps are connected.

The 50 volt economy coil has four terminals projecting from the case, and the connections are made as shown in the diagram, Fig. 4.

The 100 volt economy coil has seven terminals, four of which are directly in front as shown in the accompanying illustration. One lamp may be connected between each consecutive pair of these front terminals, as shown in Fig. 6. The three rear terminals are for the line connections, the

*g. m. m.
j. m. e.*

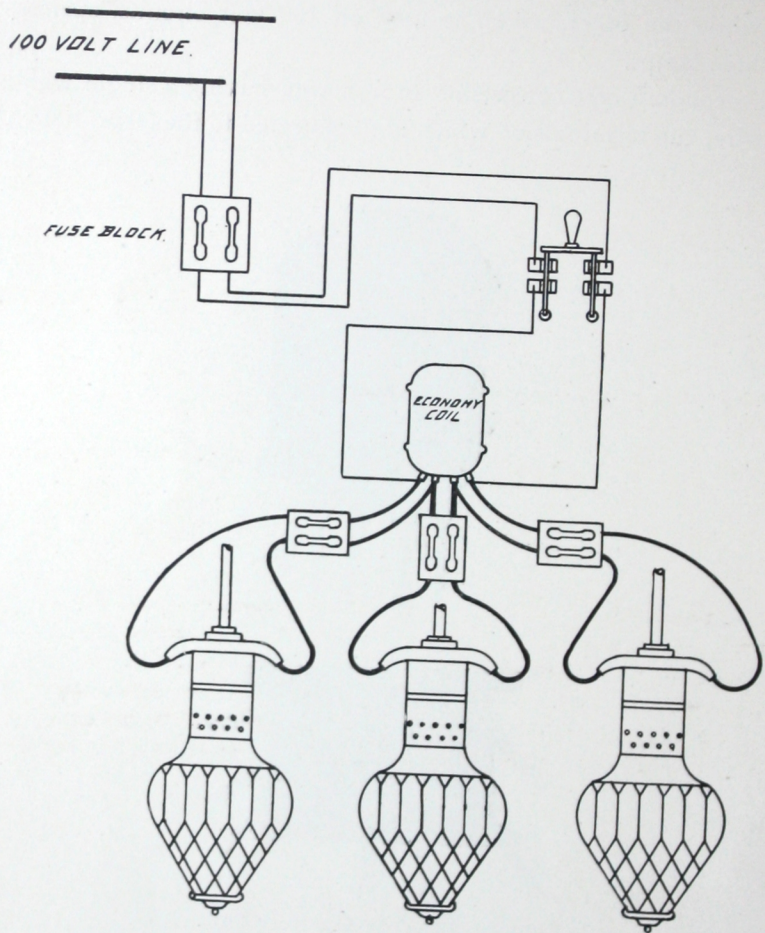


FIG. 6.

one on the left being always connected to one side of the line, and the other side of the line being connected to either of the two remaining terminals, according as it is desired to supply the lamps with 30 or 33 volts each.

Balancing Coils 60 lbs. etc

Write to our nearest district office.

WESTINGHOUSE ELECTRIC & MANUFACTURING CO.

NEW YORK, 120 Broadway.

PHILADELPHIA, Girard Building.

BOSTON, Exchange Building.

ST. LOUIS, American Central Building.

CHICAGO, New York Life Building.

CHARLOTTE, N. C., 36-38 College St.

TACOMA, WASH., 102 S. 10th Street.

SYRACUSE N. Y., Bastable Building.

PITTSBURG, Westinghouse Building.

SAN FRANCISCO, Mills Building.

BUFFALO, N. Y., No. 8 Erie County Bank Building.

WASHINGTON, D. C., 1333 "F" St., N. W.